WHAT IS CLAIMED IS:

1. A vehicle air-conditioning system of a dual air-conditioner type

provided with a front seat air-conditioning unit for air-conditioning a front seat area in a passenger compartment and a rear seat air-conditioning unit for air-conditioning a rear seat area in the passenger compartment;

said front seat air-conditioning unit has arranged in it an inside/outside air switching function unit for switching between introduction of inside air and outside air, a front seat blower for blowing air introduced by said inside/outside air switching function unit toward the front seat area in the passenger compartment, and a front seat evaporator for absorbing heat from the air blown by said front seat blower for evaporation of low pressure refrigerant of a refrigeration cycle;

said rear seat air-conditioning unit has arranged in it a rear seat blower for sucking in inside air and blowing it toward the rear seat area in the passenger compartment and a rear seat evaporator for absorbing heat from the air blown by said rear seat blower for evaporation of low pressure refrigerant of said refrigeration cycle;

said refrigeration cycle is provided with a hot gas bypass passage for reducing the pressure of the gas refrigerant delivered from the compressor, then introducing it into said front seat evaporator;

at the time of the cooling mode, said hot gas bypass passage is set to a closed state, the refrigerant passage at a radiator side of said refrigeration cycle is set to an open state, the gas refrigerant delivered from said compressor is introduced to said radiator, said refrigerant passed through said radiator is reduced in pressure by the front seat pressure reducing function unit and rear seat pressure

reducing function unit, the low pressure refrigerant passed through said front seat pressure reducing function unit is made to evaporate by said front side evaporator, and the low pressure refrigerant passed through said rear seat pressure reducing function unit is made to evaporate by said rear seat evaporator;

at the time of the heating mode, said hot gas bypass passage is set to an open state, the refrigerant passage at said radiator side is closed, and the gas refrigerant delivered from said compressor is directly introduced to said front side evaporator by said hot gas bypass passage to exhibit a hot gas heater function by said front seat evaporator;

at said heating mode, said inside/outside air switching function unit is used to set an outside air mode, said front seat blower is used to blow outside air to said front seat evaporator, and, when judging conditions by which the refrigerant of said rear seat evaporator can absorb heat from the inside air at said heating mode exist, said rear seat blower is operated to blow inside air to said rear seat evaporator.

2. A vehicle air-conditioning system as set forth in claim 1, wherein

at the time of startup of said heating mode, said refrigeration cycle is set to said cooling mode, a refrigerant recovery operation is performed, and said refrigeration cycle is switched to said heating mode after said refrigerant recovery operation is performed.

3. A vehicle air-conditioning system as set forth in claim 1, wherein at said heating mode, said rear seat blower is made to operate at its minimum volume mode.

4. A vehicle air-conditioning system as set forth in claim 2, wherein at said heating mode, said rear seat blower is made to operate at its minimum volume mode.

5. A vehicle air-conditioning system as set forth in claim 1, wherein

said system is further provided with an

inside air temperature detecting function unit for detecting an inside air temperature and a refrigerant temperature information detecting function unit for detecting information relating to the refrigerant temperature of said rear seat evaporator and

the conditions by which the refrigerant of said rear seat evaporator can absorb heat from the inside air are judged to exist based on said inside air temperature and said refrigerant temperature.

6. A vehicle air-conditioning system as set forth in claim 2, wherein

said system is further provided with an inside air temperature detecting function unit for detecting an inside air temperature and a refrigerant temperature information detecting function unit for detecting information relating to the refrigerant temperature of said rear seat evaporator and

the conditions by which the refrigerant of said rear seat evaporator can absorb heat from the inside air are judged to exist based on said inside air temperature and said refrigerant temperature.

7. A vehicle air-conditioning system as set forth in claim 5, wherein said refrigerant temperature information detecting function unit is comprised of a refrigerant pressure detecting function unit for detecting a refrigerant pressure of said rear seat evaporator.

8. A vehicle air-conditioning system as set forth in claim 6, wherein said refrigerant temperature information detecting function unit is comprised of a refrigerant pressure detecting function unit for detecting a refrigerant pressure of said rear seat evaporator.

9. A vehicle air-conditioning system as set forth in claim 1, wherein the conditions by which the refrigerant of said rear seat evaporator can absorb heat from the inside air are judged to exist based on the

elapsed time after startup of said heating mode.

10. A vehicle air-conditioning system as set forth in claim 2, wherein the conditions by which the refrigerant of said rear seat evaporator can absorb heat from the inside air are judged to exist based on the elapsed time after startup of said heating mode.

11. A vehicle air-conditioning system as set forth in claim 1, wherein, when performing said refrigerant recovery operation, said inside/outside air switching function unit sets the outside air mode to blow outside air from said front seat blower to said front seat evaporator and said rear seat blower is operated to blow inside air to said rear seat evaporator.

12. A vehicle air-conditioning system as set forth in claim 2, wherein, when performing said refrigerant recovery operation, said inside/outside air switching function unit sets the outside air mode to blow outside air from said front seat blower to said front seat evaporator and said rear seat blower is operated to blow inside air to said rear seat evaporator.

13. A vehicle air-conditioning system as set forth in claim 1, wherein a rear seat high pressure pipe connected to the upstream side of the rear seat pressure reducing function unit arranged at an inlet of said rear seat evaporator has arranged in it a check valve for preventing the inflow of refrigerant from said rear seat evaporator to said radiator side.

14. A vehicle air-conditioning system as set forth in claim 2, wherein a rear seat high pressure pipe connected to the upstream side of the rear seat pressure reducing function unit arranged at an inlet of said rear seat evaporator has arranged in it a check valve for preventing the inflow of refrigerant from said rear seat evaporator to said radiator side.